

Vibratory Double-Axially Sensing Micro-Gyroscope

Abstract

5 The invention is to provide a vibratory double-axially sensing
micro-gyroscope, which includes a base, on center of which a supporting
hub is arranged, and plural suspending arms are extended outwardly with
equal altitude and in radial direction from the supporting hub and, at the
outside end of the suspending arm, a platform is formed, and a capacitance
10 sensing electrode or a static-electricity driving electrode is plated
respectively at each side of the platform top, below which a static-electricity
driving electrode or a capacitance sensing electrode is arranged; take a
preferred embodiment of the present invention for example, if the
capacitance sensing electrode is arranged at top of the platform and the
15 static-electricity driving electrode is arranged below the platform, then the
suspending arm and the platform will vibrate vertically by the attraction of
the static-electricity when applying driving voltage, and the vibratory phase
difference between two adjacent suspending arms and the platform is 180
degrees; when the gyroscope is rotated horizontally, the suspending arm and
20 the platform will generate horizontal displacement caused by Coriolis force
and, by measuring the change of capacitance value, the magnitude of the
angular velocity of vibration is obtained; since its structure has symmetrical
property, so it has sensing ability in both X or Y axes and, because it has
superior stability and is able to resist environment noise and vibration, its
25 sensing capability is enhanced and, since its machining method is simple, so
it is adapted for mass production for having lower manufacturing cost.